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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,033	11/14/2003	Mohammad R. Haghighat	INTEL/17855	2870
34431	7590	12/20/2007		
HANLEY, FLIGHT & ZIMMERMAN, LLC 150 S. WACKER DRIVE SUITE 2100 CHICAGO, IL 60606			EXAMINER NGUYEN, PHILLIP H	
			ART UNIT 2191	PAPER NUMBER
			MAIL DATE 12/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/714,033

Applicant(s)

HAGHIGHAT ET AL.

Examiner

Phillip H. Nguyen

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed 10/01/2007.
2. Claims 1-30 remain pending and have been considered below.

Response to Amendment

3. The rejection to claims 19-24 under 35 U.S.C. 101 non-statutory, software per se is withdrawn in view of Applicants' amendment.
4. The rejection to claims 1-6, 9-15, 18-22 and 24-29 under 35 U.S.C. 102(b) is withdrawn in view of Applicants' amendment.
5. The rejection to claims 7, 16-18, 23 and 30 under U.S.C. 103(a) is withdrawn in view of Applicants' amendment.

Response to Arguments

6. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 6-10, 14-20, 23-25, 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Avvari et al. (United States Patent No.: US 7,165,074 B2).

As per claims 1, 9, 19 and 25:

Avvari teaches:

- generating an instrumented code of the application (see at least col. 3, lines 20-22 "***The method includes using instrumented code to execute tests cases in a test suite so as to create coverage data***"; also see at least col. 4, lines 52-55 "***The intelligent test system of the present invention uses instrumented software, herein also referred to as profiled software to execute all test cases...***");
- executing a plurality of tests on the instrumented code of the application (see at least col. 4, lines 52-55 "***The intelligent test system of the present invention uses instrumented software, herein also referred to as profiled software to execute all test cases in all of the test suites so as to create coverage data***"; also see at least col. 6, lines 10-12 "***the test executor 114 uses all test cases in all of the test suites defined in the test suites component 110 using a profiled Java software component 102 creating coverage data***");
- generating one or more test profiles associated with the plurality of tests (see at least col. 4, lines 52-55 "***The intelligent test system of the present invention***

- uses instrumented software, herein also referred to as profiled software to execute all test cases in all of the test suites so as to **create coverage data***"; also see at least col. 6, lines 10-12 *"the test executor 114 uses all test cases in all of the test suites defined in the test suites component 110 using a profiled Java software component 102 **creating coverage data**"*); and
- selecting at least one of the plurality of tests based on an analysis of the one or more test profiles to reduce testing time of the application (see at least col. 2, lines 51-58 *"**The data analyzer/optimizer is configured to analyze the coverage data contained in the database to find test cases affected by a modification to the software code. The data analyzer/optimizer is also configured to optimize the test cases that satisfy a criteria. The test executor uses the test cases that satisfy the criteria to test the modification to the software code***"; also see at least col. 6, lines 57-60 *"**Upon determining the optimized test cases and creating the precision test list, a product Java source code executable is tested using only the test cases in the precision test list, eliminating the redundancy shortcoming associated with the prior art***"; also see col. 9, lines 29-32 *"**the test executor 114 tests the product Java software 104 using the test cases in the precision test list thus substantially reducing the time associated with testing by eliminating the redundant test cases***").

As per claims 2 and 10:

Avvari further teaches:

- wherein generating the instrumented code of the application comprises inserting one or more probes into the application (see at least col. 8, lines 3-15 "***the profiled Java software 104 includes a plurality of special codes which when activated, causes certain information (e.g., flags, etc.) to be generated...the compiler is designed to insert a plurality of documented and hidden flags into the source code...***").

As per claims 6, 14, 15, 24 and 29:

Avvari further teaches:

- wherein identifying the at least one of the plurality of tests based on the analysis of one or more test profiles comprises generating a priority list having the at least one of the plurality of tests to identify one or more breakpoints of the application associated with one or more program states (see at least col. 6, lines 44-45 "***the data analyzer/optimizer 112 creates a precision test list of test cases satisfying a specific criteria***"; also see at least col. 8, lines 45-50 "***The data analyzer then analyzes the changed...subsequently, a precision list of all the test case satisfying a certain criteria is created...***").

As per claims 7, 16, 23 and 30:

Avvari further teaches:

- wherein identifying the at least one of the plurality of tests based on the one or more test profiles comprises selecting the at least one of the plurality of tests based on the one or more test profiles in response to a query (see at least col. 8, lines 44-50 "***data analyzer 112a queries the source code controller system 106 requesting the functions/methods that have been changed. The data analyzer then analyzes the changed...subsequently, a precision list of all the test case satisfying a certain criteria is created...***").

As per claims 8 and 17:

Avvari further teaches:

- storing the one or more test profiles in a database (see at least col. 6, lines 34 "***each test case stored into the database 102***").

As per claim 18:

Avvari further teaches:

- wherein the machine readable medium comprises at least one of a programmable gate array, application specific integrated circuit, erasable programmable read only memory, read only memory, random access memory, magnetic media, and optical media (see at least col. 14, lines 19-22

"Examples of the computer readable medium include hardware drives, network attached storage (NAS), read-only memory, random-access memory..."

As per claim 20:

Avvari further teaches:

- wherein the code coverage device comprises at least one of a compiler, an assembler, an interpreter, or a post link optimizer (see at least col. 5, line 44 ***"just-in-time compiler"***; also see FIG. 1, ***"Data Analyzer/Optimizer"***).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3-5, 11-13, 21, 22 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avvari et al. (United States Patent No.: US 7,165,074 B2), in view of Plum (United States Patent No.: 5,758,061).

As per claims 3, 4, 11, 12, 21, 22 and 26-28:

Avvari further teaches:

- wherein generating the one or more test profiles associated with the plurality of tests comprises identifying one or more program states of the application (**"the coverage data"** –the path of test case).

Avvari does not explicitly teach:

- generating one or more time stamps corresponding to each of the one or more program states.

However, Plum teaches an analogous method using timestamp (see at least col. 3, lines 42-47 **"testing time is estimated by using report information developed during the incremental testing process. In particular, the incremental coverage results may be time stamped, and these time stamps may be used to estimate the ratio of the number of defects reveals by testing to the total amount of time spent testing the software"**)

Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made modify Avvari's approach to include timestamp in the coverage data when stored in the database. One would have been motivated to include timestamp in the coverage data when stored in the data to indicate when the coverage data was created or for estimating the ratio of the number of defects reveals by testing to the total amount of time spent testing the software or for the purpose of maintenance, update, modification, testing, etc.

As per claims 5 and 13:

Avvari does not explicitly teach:

- wherein generating the one or more test profiles associated with the plurality of tests comprises generating one or more time stamps corresponding to a detection of one or more program states of the application based on at least one of a hardware timer, a software timer, or a virtual timer.

However, Plum teaches the use of timer (see at least col. 21, lines 39-61

"#include <time.h> clock_t goal; outp(0x43, 0xb6; / prepare timer by sending 10111100 to port 43*/").*

Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify Avvari's approach to include a timer to generate timestamp for the coverage data used to estimate the ratio of the number of defects reveals by testing to the total amount of time spent testing the software.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip H. Nguyen whose telephone number is (571) 270-1070. The examiner can normally be reached on Monday - Thursday 10:00 AM - 3:00 PM EST.

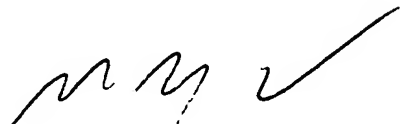
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PN
12/12/2007



WEI ZHEN
SUPERVISORY PATENT EXAMINER